

IN THE CLAIMS

1-20. Cancelled

21.(currently amended) An electronic control including sensing means to scan one or more energizing circuits of a device, said energizing circuits

5 containing one or more transducers, said transducers requiring currents to be energized, said energizing circuits including switches, said switches capable of carrying said currents, said switches having intended states, said energizing circuits carrying ~~the said currents of said transducers~~,

10 said transducers having ~~the a~~ potential to cause said device to operate in a hazardous manner if said transducers are mistakenly energized,

said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

15 ~~the said intended states of said switches~~ are known to said control whether said intended states are set by said control or an override in said device,

said control;

identifying any of said switches as functional switches that said sensing means verifies are in said intended states,

20 identifying any of said switches as non-functional switches that said sensing means verifies are not in said intended states,

using at least one of said functional switches to preclude said currents from flowing through one or more of said non-functional switches preventing said transducers from being mistakenly energized

25 ~~preventing any of said switches identified as non-functional from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.~~

22.(currently amended) The electronic control in accordance with claim 21 in which at least one of said transducers is a solenoid actuating a valve, said hazardous manner being flooding.

23.(currently amended) The electronic control in accordance with claim 21 in which at least one of said transducers is a heating element, said hazardous manner being overheating.

24.(currently amended) The electronic control in accordance with claim 21 in which at least one of said transducers is a motor, said hazardous manner being physical injury to ~~the~~ an operator of said device.

25.(currently amended) An electronic control including sensing means to scan one or more energizing circuits of a device, said energizing circuits containing one or more transducers, said transducers requiring currents to be energized, said energizing circuits including switches, said switches capable of carrying said currents, said switches having intended states, said energizing circuits carrying ~~transducer~~ said currents,

said transducers having ~~the~~ a potential to cause said device to operate in a hazardous manner if said transducers are mistakenly energized,

said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

~~the said~~ intended states of ~~said switches~~ are known to said control whether said intended states are set by said control or an override in said device,

said control;

identifying any of said switches as functional switches that said sensing means verifies are open when said intended state is open,

identifying any of said switches as erroneously closed switches that said sensing means verifies are not open when said intended state is open,

using at least one of said functional switches to preclude said currents from flowing through one or more of said erroneously closed switches preventing said transducers from being mistakenly energized

~~preventing any of said switches identified as erroneously closed from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.~~

26.(currently amended) The electronic control in accordance with claim 25 wherein at least one of said switches can be independently opened by either said control or an override.

27.(currently amended) The electronic control in accordance with claim 26 wherein said control signals ~~the~~ an operator it has identified one or more of said switches as erroneously closed switches.

28.(currently amended) The electronic control in accordance with claim 25 wherein said control continues to operate said transducers in said energizing circuits ~~of containing said erroneously closed switches identified as erroneously~~ closed.

29.(currently amended) The electronic control in accordance with claim 28 wherein said control signals ~~the~~ an operator it has identified one or more of said switches as erroneously closed switches.

30.(currently amended) The electronic control in accordance with claim 25 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuits.

31.(currently amended) The electronic control in accordance with claim 25 wherein said energizing circuits contain at least one externally operated switch, said externally operated switch having an externally determined intended state, said control being unaware of said externally determined intended state, said sensing means determining whether said externally operated switch is open or closed~~said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means.~~

32.(currently amended) An electronic control having output circuitry to operate a device, said control including sensing means to scan the said output circuitry of a device, said output circuitry including one or more energizing circuits, said energizing circuits containing one or more transducers, said transducers requiring currents to be energized, said energizing circuits including switches, said switches capable of carrying said currents, said switches having intended states, said energizing circuits carrying ~~transducer~~ said currents,

said transducers having ~~at the~~ potential to cause said device to operate in a hazardous manner if said transducers are mistakenly energized,

said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

5 at least one of said switches being a monitored switch, said monitored switch changing state at a frequency,

each of said energizing circuits, that include said monitored switch,
having off periods when no electricity flows through said monitored switch,

said control;

10 using said sensing means to ascertain ~~the~~ said frequency said monitored switch changes state,

~~prolonging the said off periods at least one of said transducers, switched by said monitored switch, is unenergized if said frequency is too high for exceeds the rate at which said monitored switch to can safely operate.~~

15 33.(currently amended) The electronic control in accordance with claim 32 wherein said sensing means scans said energizing circuits.

34.(currently amended) The electronic control in accordance with claim 33 wherein ~~the~~ said intended states of said switches are known to said control whether said intended states are set by said control or an override in said

20 device,

said control;

identifying any of said switches as functional switches that said sensing means verifies are in said intended states,

25 identifying any of said switches as non-functional switches that said sensing means verifies are not in said intended states,

using at least one of said functional switches to preclude said currents from flowing through one or more of said non-functional switches preventing said transducers from being mistakenly energized

~~preventing any of said switches identified as non-functional from causing~~
30 ~~said transducers to be mistakenly energized by opening one or more of said switches identified as functional.~~

35.(currently amended) The electronic control in accordance with claim 34 wherein said energizing circuits contain at least one externally operated switch, said externally operated switch having an externally determined intended state, said control being unaware of said externally determined
5 intended state, said sensing means determining whether said externally operated switch is open or closed.~~said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means~~

36.(currently amended) The electronic control in accordance with claim 10 34 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuits.

37.(currently amended) The electronic control in accordance with claim 33 wherein ~~the said~~ intended states of said switches are known to said control whether said intended states are set by said control or an override in said
15 device,

said control identifying any of said switches as functional switches that said sensing means verifies are open when said intended states is-are open,

said control identifying any of said switches as erroneously closed switches that said sensing means verifies are not open when said intended states
20 is-are open,

using at least one of said functional switches to preclude said currents from flowing through one or more of said erroneously closed switches preventing said transducers from being mistakenly energized

~~preventing any of said switches identified as erroneously closed from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.~~
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38.(currently amended) The electronic control in accordance with claim 37 wherein at least one of said switches can be independently opened by either said control or an override.

39.(currently amended) The electronic control in accordance with claim 37 wherein at least one sensor of said sensing means scans said switches in a plurality of- said energizing circuits.

5 40.(currently amended) The electronic control in accordance with claim 37 wherein ~~said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means~~said energizing circuits contain at least one externally operated switch, said externally operated switch having an externally determined intended state, said control being unaware of said
10 externally determined intended state, said sensing means determining whether said externally operated switch is open or closed.